

## Nucleosome, Recombinant Human, H2BK120ub1 dNuc, Biotinylated

|                      |             |                |                                |
|----------------------|-------------|----------------|--------------------------------|
| <b>Catalog No</b>    | 16-0396     | <b>Species</b> | Human                          |
| <b>Lot No</b>        | 23285002-03 | <b>Source</b>  | <i>E. coli</i> & synthetic DNA |
| <b>Pack Size</b>     | 25 µg       | <b>Tag</b>     | Biotinylated                   |
| <b>Concentration</b> | 5.5 µM      | <b>MW</b>      | 216,866.1 Da                   |

### DESCRIPTION

Recombinant mononucleosomes (H2BK120ub1) consist of 147 base pairs of DNA wrapped around an octamer core of histone proteins (two each of histones H2A, H2B, H3 and H4) to form a nucleosome, the basic repeating unit of chromatin. The 147 bp 601 sequence, identified by Lowary and Widom [1], has high affinity for histone octamers and is useful for nucleosome assembly. H2BK120ub1 dNuc contains ubiquitin-lysine at position 120 on histone H2B. The DNA contains a 5' biotin-TEG group.

### TECHNICAL INFORMATION

|                    |   |
|--------------------|---|
| <b>Storage</b>     | Stable for six months at -80°C from date of receipt. For best results, aliquot and avoid freeze/thaws   |
| <b>Formulation</b> | 1.2 mg/mL mononucleosome in 20.8 µL 10 mM Tris HCl pH 7.5, 25 mM NaCl, 1 mM EDTA, 2 mM DTT, 20% glycerol (14.4 µg protein, 25 µg DNA + protein) |

### APPLICATION NOTES

H2BK120ub1 dNuc is highly purified and suitable for a variety of applications, including use as a substrate in enzyme assays, high-throughput screening and inhibitor testing, chromatin binding studies, protein-protein interaction assays, structural studies, and in effector protein binding experiments.

### GENE & PROTEIN INFORMATION

|                   |  |
|-------------------|--|
| <b>UniProt ID</b> | H2A - P04908 (alt. names: H2A type 1-B/E, H2A.2, H2A/a, H2A/m)<br>H2B - P62807 (alt. names: H2B type 1-C/E/F/G/I)<br>H3 - P68431 (alt. names: H3, H3/a, H3/b, H3/c, H3/d)<br>H4 - P62805 |
|-------------------|--|

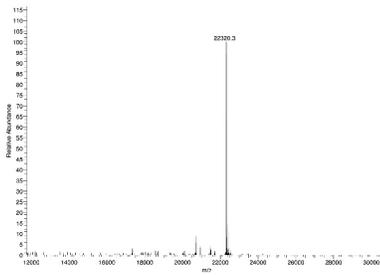
### REFERENCES

[1] Lowary & Widom *J. Mol. Biol.* (1998). PMID: 9514715

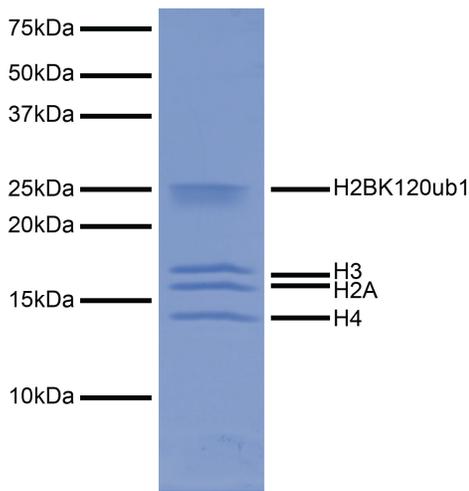
## VALIDATION DATA



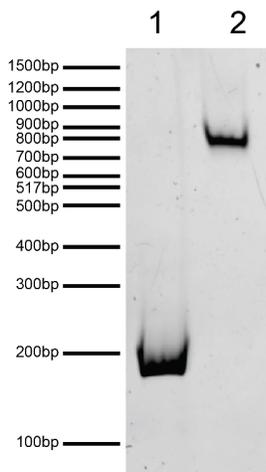
**FIGURE 1 Western blot data.** Western Analysis of H2BK120ub1 dNuc. **Top Panel:** Unmodified (EpiCypher 16-0006; Lane 1) and H2BK120ub1 (Lane 2) nucleosomes were probed with an anti-H2BK120ub1 antibody and analyzed via ECL readout. Only the H2BK120ub1 sample produced a detectable signal. **Bottom Panel:** Detail from Coomassie stained gel showing unmodified (Lane 1) and H2BK120ub1 (Lane 2) nucleosomes.



**FIGURE 2 Mass spec data.** H2BK120ub1 histone analyzed by high resolution mass spectrometry. Expected mass = 22,321.8 Da. Determined mass = 22,320.3 Da.



**FIGURE 3 Protein gel data.** Coomassie stained SDS-PAGE gel of proteins in H2BK120ub1 dNuc (1  $\mu$ g) demonstrates the purity of histones in the preparation. Sizes of molecular weight markers and positions of the core histones (H2A, H2BK120ub1, H3 and H4) are indicated.



**FIGURE 4 DNA gel data.** H2BK120ub1 dNuc resolved via native PAGE and stained with ethidium bromide to visualize DNA. **Lane 1:** Free DNA (EpiCypher 18-0005; 100 ng). **Lane 2:** Intact H2BK120ub1 nucleosomes (400 ng).